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December 23, 1998

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FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY

**BY HAND DELIVERY**

Ms. Magalie Salas, Secretary  
Federal Communications Commission  
1919 M Street NW  
Room 222  
Washington DC 20554

**Re: Amendment of Part 18 of the Commission's Rules to Update Regulations for  
RF Lighting Devices, ET Docket No. 98-42 — Ex Parte Communication**

Dear Ms. Salas:

This is a written ex parte communication pursuant to Section 1.1206(a)(1) of the Commission's Rules. The original and one copy are enclosed for filing.

I am authorized to state that the following entities support this letter: Bluetooth Promoters (Ericsson, IBM, Intel, Nokia, and Toshiba), Harris Corporation, Metricom Inc., Symbol Technologies, Inc., and 3Com Corporation — collectively, the "Part 15 Interests."

We are writing in response to ex parte presentations made by Fusion Lighting Corporation ("Fusion") on and about December 10, 1998.<sup>1</sup>

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<sup>1</sup> See Attachments to Letter from Terry G. Mahn, Counsel for Fusion Lighting Corporation, to Magalie Salas, Secretary, FCC in ET Docket No. 98-42 (dated Dec. 15, 1998) ("Fusion Attachments"). Although the Part 15 Interests dispute several assertions in the Attachments, we shall disregard those here to focus instead on elements that may facilitate a resolution of this dispute.

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**Discussion**

The Part 15 Interests seek to protect the large and expanding investment in advanced Part 15 equipment in the 2.4 GHz band. The current market is \$1 billion/per year, growing at 30% annually. Every sector of the economy has come to depend on this equipment. At the same time, however, the Part 15 Interests have no wish to stifle the nascent RF lighting industry, which we agree will have significant public interest benefits. We think it likely that good will on both sides will yield technical and regulatory solutions that permit both industries to share the band satisfactorily.

The Part 15 Interests welcome the disclosure that Fusion considers it important to include RF shielding in its products.<sup>2</sup> To be sure, Fusion notes that it uses shielding as a matter of self-interest, to protect its own market.<sup>3</sup> Regardless of its motives, however, Fusion's willingness to consider Part 15 operations may point the way to a resolution of this controversy. Indeed, if Fusion were to remain the only RF lamp manufacturer, the Part 15 community might be willing simply to accept Fusion's assurances as to emissions, without seeking Commission action. As the RF lighting industry expands, however, and as competing manufacturers look for ways to cut costs, regulation becomes the only way to assure adequate shielding.

Fusion continues to resist regulatory limits on in-band emissions. But it still has not offered any grounds for that position, other than to cite a 50-year-old Commission Rule that gives ISM devices unlimited rights in the band. That rule can no longer be justified in today's overburdened spectrum — especially for products, such as RF lamps, whose operation does not depend on emissions outside the device. ISM is the only FCC-regulated radio service without power restrictions, a vestige of earlier days when there was a lot of spectrum to go around. When the present ISM rule was promulgated, shortly after World War II, exclusive allocations were the rule, and there were still plenty of unallocated bands. But the ever-accelerating congestion since then has necessitated sharing in many bands, including the ISM bands. Today the 2.4 GHz band is densely used by Part 15, in addition to ISM, and is also allocated to the radiolocation and amateur services. The public interest can no longer support a policy of unlimited emissions, especially for equipment that need not radiate at all to perform its function.

In view of the data that Fusion recently provided, the Part 15 Interests are willing to reconsider their earlier proposed limits. Fusion states that its lamps sold in Europe operate at 20 dB below the CISPR 15 standard of 100 dBuV/m.<sup>4</sup> That standard translates to 100 mV/m,

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<sup>2</sup> Fusion Attachments at 4.

<sup>3</sup> Fusion Attachments at 4.

<sup>4</sup> Fusion Attachments at 2.

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and 20 dB below that is 10 mV/m. Under reasonable assumptions about RF lamp placements and emissions patterns, lamps emitting at 10 mV/m will produce interference near the top of the range that typical Part 15 systems can tolerate without severe disruption, although some degradation is likely even at this level.<sup>5</sup>

To allow RF lighting manufacturers some headroom, the Part 15 Interests propose a limit of 20 mV/m at 3 meters. This should allow both RF lighting and Part 15 to serve the needs of their respective users in the band. For comparison, the proposed limit is 34 dB above the highest limit (Class A) for Part 15 unintentional radiators. Part 15 acknowledges that it must accept any interference from RF lamps operating within the Commission's Rules.<sup>6</sup>

#### **Proposed Regulatory Language**

Section 18.305(c) presently limits out-of-band emissions for RF lighting devices. Our proposed additional language on in-band emissions is marked with a double underscore.

#### **§ 18.305 Field strength limits**

(a) Except as otherwise provided, ISM equipment operating on a frequency specified in § 18.301 is permitted unlimited radiated energy in the band specified for that frequency.

[ \* \* \* ]

[Renumber § 18.305(c) as § 18.305(c)(1) and add this new § 18.305(c)(2)]

(2) Within the bands specified in § 15.247, the field strength limits for RF lighting devices, measured at 3 meters, shall not exceed 20 mv/m.

■ ■ ■ ■

The Part 15 Interests remain willing to meet with RF lighting industry representatives to discuss regulatory alternatives that might better serve the needs of both industries.

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<sup>5</sup> Fusion's listing of permitted fields strengths for various intentional Part 15 radiators is inapposite, because RF lighting devices are insensitive to incoming interference. See Fusion Attachments (unnumbered last page).

<sup>6</sup> 47 C.F.R. § 15.5(b).


FLETCHER, HEALD & HILDRETH, P.L.C.

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Kindly date-stamp and return the extra copy of this letter.

If there are any questions about this filing, please call me at the number above.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Mitchell Lazarus", with a stylized flourish at the end.

Mitchell Lazarus

cc: Service List

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